

Science and Technology

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OUTSIDE THESE INSIDE STORIES

The young women featured in this brochure are unique in one respect only: they had the determination to carve out careers based on what they really wanted to do rather than on what girls are expected to do.

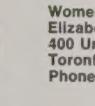
Other young women are turning more and more to careers in the technologies and skilled trades, for example Gina Berry of Toronto who is a lineman with Bell Telephone, or Beverley Hodgson, a licensed oil burner mechanic, or Mary Nitzche of Brantford who is a lift tow operator.

Whatever your career decision may be, don't short-change yourself by settling for a level less than your potential. It's important, too, not to avoid what you think might be an interesting career simply because it's never been considered suitable for a girl.

You'll find that today, in Ontario, it's ability to do the job that counts—not whether you happen to be a man or woman. And this principle is enforced through the Ontario Human Rights Code. The law says that you cannot be discriminated against because of your sex or marital status in being hired, trained or promoted. So as long as you have the necessary qualifications, ability and commitment, you'll have an equal chance to succeed on the job.

If it's ideas you need, the Women's Bureau has a series of suggestions complete with job descriptions. It's called a *Career Selector*.

Just telephone or write the Women's Bureau, 400 University Avenue, Toronto M7A 1T9.



Women's Bureau
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400 University Avenue
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Phone 965-1537

Peggy Simons
Chemical Engineer

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"Heaven — a sunrise and rocks"

Dianne Jusula/Age 24

Geologist
Long Lac Mineral Exploration Limited
Toronto, Ontario

Bachelor of Arts (Geology)
University of Minnesota

"I think of myself as a basically uncomplicated person. I love two things in life, my rocks and my fiancé. Put me out in the bush working with rocks billions of years old and I'm overwhelmed. I've had a rock collection since the time I was seven. Studying earth sciences in high school fed my curiosity in the subject.

It was in university that I really discovered geology. It was one of the few subjects I never tired of. The more I learned about it, the more I wanted to know and I put in many extra hours, mostly staring into a microscope. That's when the possibility of becoming a geologist began to jell in my mind.

Exploration work is very difficult for most girls to break into despite the fact Ontario is known as a geologist's paradise. There are easier ways of making a living as a geologist—if you can settle for a desk-type position—but none as exciting as field work.

Be prepared for the fact that in most instances the job comes first and the hours can be long. As a female geologist be prepared for the fact that your background will never be as complete as a man's. Quite reasonably, many exploration projects are not suitable for women. The physical demands are strenuous and sometimes I've wondered, "Why do I do this to myself?" For some people being totally alone in the wilderness creates anxiety but if you're like me, it's more a release. I can't stand being cooped up for any length of time in my office. You need to be a self-starter and really love the work. Frankly I can't imagine myself doing anything else!"

Dianne E. Jusula

Barbara Creagh/Age 29

Systems Analyst
Douglas Aircraft Company of Canada Ltd.

Malton, Ontario

Final year, Marine Biology
University of Guelph

"It's a rude shock to learn just how limited a girl can be in business with only a high school commercial graduation. Regardless of how varied your experience, when you apply for a job, any job, if you type you're automatically tagged secretary—period! I know, because until I decided to retrain myself I had changed jobs repeatedly in an effort to advance myself. Employers seem to judge according to the letters after your name, not by your experience or talents.

As a secretary I really tried to upgrade myself. A university degree didn't particularly appeal. What I wanted was a practical skill so I undertook correspondence courses to train as a Public Accountant. Half-way through it struck me that the more tempting positions invariably called for computer knowledge. To switch fields I had to start again at the bottom and accept substantial cut in salary, but in retrospect I believe it was the smartest move I have ever made. Fortunately, it was still possible for me at that time to be trained on the job. Since then, the mushrooming demand for qualified computer staff has compelled employers to recognize experience and not solely education.

Working as a systems analyst for Douglas often means wearing a number of different hats. Part of my day could be spent planning aircraft assembly schedules with plant personnel, part with the accountants discussing payroll problems, maybe even some moments at my desk debugging new computer programs.

Thoughts of marriage aren't uppermost in my mind. That doesn't mean I'm not interested in marriage. It simply means I'm waiting until I'm good and ready. For the time being I'm content to be free and able to travel when and where I want."

Barbara Creagh



"Automatically tagged—secretary"

Barbara Blair/Age 22

Marine Biologist
Ontario Department of Lands and Forests
South Baymouth, Ontario

Final year, Marine Biology
University of Guelph

"When I began scuba diving at 16 I never dreamt it could lead me into a full-time occupation. It was strictly a sport. During a Florida Christmas vacation two years later, through sheer chance I attended a lecture on reef fishes by a noted marine biologist. The idea of actually working in an aquatic environment so excited me I headed straight for the coral diving reefs. I even forgot to go home for Christmas dinner!

That vacation changed all my resistance toward school. Instead of being dull and boring, every subject seemed to become relevant to marine biology. French for reading the exploits of Jacques Cousteau, geography for learning about the oceans and math for analyzing data. This instant eagerness to learn has prevailed throughout my university courses, even the tough ones.

Three years of summer jobs with Lands and Forests have given me an extensive training in limnology. A reconnaissance trip has taken me to Algonquin park for research on smallmouth bass. This year I'm inspecting and recording fish catches for analysis by the biologists. One of the programs is designed to breed a new species to replenish the trout population that has been ravaged by the parasitic Lamprey eel. While field studies are a vigorous, outdoors life—except for the endless report writing—one must also be prepared to spend some time at a desk and working in a lab.

Though I expect to graduate next year, my career plans are just in the beginning stage. It's entirely possible to work in locales such as Hawaii or the Caribbean, which I'd love to do. Or maybe in an underwater habitat such as the Sublimnos research project where I spend all my spare hours diving. Regardless of what direction I take—even if marriage changes the entire picture—I won't forsake my water world. For the moment I'm content to dream about working on an oceanographic research ship alongside my hero, Cousteau."

Barbara Blair



"School suddenly became relevant"

Peggy Simons/Age 23

Chemical Engineer, P.Eng.
Gulf Oil Canada Limited
Research and Development Centre
Sheridan Park, Ontario

Bachelor of Applied Science (Chemistry)
University of Toronto

"Ironically, it was part stubbornness that pushed me into engineering. While I had grown up surrounded by the chemical industries of Sarnia, the idea of becoming an engineer had never occurred to me. Not, that is, until a guidance teacher joked about my strong scientific aptitude scores. By implying that engineering was unsuitable for a woman, she unwittingly launched me into the career."

Engineering was the right decision for me and my university grades were good. Few girls realize that engineering is primarily a desk job. But—in order to get vital practical experience you have to get your hands dirty once in a while. For this reason, girls must have the desire as well as the willingness to handle the physical demands of the work.

Working for Gulf is, for me, almost ideal because I'm not deskbound. Basically the job is new product development—part pencil and paper, part nuts and bolts work. My particular assignment is developing automotive lubricants geared to the vehicles of the immediate future. Eventually I expect I'll have two jobs since I hope to carry on with my work while we raise a family. Both my husband and I believe it can be done successfully.

There is little to prevent any girl with the right set of aptitudes from pursuing a career in engineering. I'm regarded as an equal here because I neither expect nor accept any favours because of my sex. That means working shifts, weekends and operating the pilot plant on the same basis as the fellows."

Peggy Simons



"Neither expect nor accept any favours"

Nancy Waller / Age 23

Meteorologist
Federal Ministry of Transport
Weather Office, Toronto International Airport

Bachelor of Science (Physics)
Mount Allison University

"On the wall of our office is a cartoon of the weatherman's lament: 'You write the forecast and I'll prepare the alibi'. I guess that accounting for boobs is an occupational hazard of many public service jobs. More so for a weatherman which explains why human relations is an integral part of the Department's nine-month training program.

Meteorology is a great growth field for girls in my opinion. Though if you can't learn to live with shift work, then forget it! I happened upon the occupation through a friend who knew I was in search of a unique kind of job in applied sciences — a practical type of job. That's precisely what I've got because in the preparation of weather forecasts I'm daily applying my knowledge of the earth sciences. However, with new developments in the meteorological service, other disciplines such as data processing, agriculture and forestry are becoming increasingly relevant.

One of the most responsible duties of my work is the regular briefings of flight dispatchers about continental flying conditions, or of pilots concerning special weather problems. It's here where one's professionalism and skill in dealing with people are tremendously important.

I think a real plus in this business is the opportunity for advancement, provided you are prepared to relocate. Except for the isolation stations, I can be posted anywhere in Canada.

Marriage? Well, there is a way to fit that in. There are other sections in the service where the routine is more like 9 to 5 . . ."

Nancy Waller



"I like rain, if I predict it"



"It's permanent!"

Barbara Ashenhurst / Age 24

Civil Engineering Technician
Corporation of the City of Hamilton
Hamilton, Ontario

Certified Senior Engineering Technician (Civil)
Certified Surveying Technologist

"Just after I'd finished my first major road design in Hamilton I stopped to wonder about what I'd accomplished. That road I had spent so much time designing will be almost completed when my infant daughter is starting school. And it should still be there when her daughter's daughter starts school. That's the whole point of engineering — it's permanent. You can see it and touch it.

Fortunately I wasn't distracted by those who tried to dissuade me from any kind of technical career. Five years in an all-girl high school didn't foster much longing for a science career but it couldn't stifle my addiction to science fiction stories. Fortunately my husband had the good sense to encourage me. I majored in civil engineering during my two years at university but at that point marriage altered my route. Still, as a technician I'm doing the kind of projects I enjoy — roads, sewers and bridges! Much of my time is devoted to drafting but I'm also frequently out 'on-site'.

I did take one year off from work but really I'm glad to be back. It makes me more efficient at home; my child is more independent and I enjoy her more because I'm happy on the job.

Unless a girl is quite determined on obtaining a university degree in engineering, I personally believe a community college course offers an ideal alternative. A woman who moves into a traditionally male field should remember that it takes time for the men she works with to realize that a woman can have a real commitment to this kind of work. But the picture is changing very rapidly. And if my daughter chooses engineering as her career, she won't be considered unusual."

Barbara K. Ashenhurst

Margaret Takeuchi / Age 25

Industrial Engineer, P.Eng.
Barringer Research Limited
Rexdale, Ontario

Bachelor of Applied Science (Industrial),
University of Toronto

"I'd always imagined an engineer as a guy with a hard hat, a transit and dirty boots. This may be the case with some branches of engineering but not industrial! This section is, in my view, probably the most ideal for a girl. It's less physical, more multi-purpose, and certainly the most unspecialized.

'Industrial' is a marriage of engineering principles with business administration. Its applications are so diverse, career opportunities could range from heading up a computer system to managing a company. My first job, with T. Eaton Co., involved applying scientific techniques to the fashion department.

Very early in my high school days I discarded any thoughts of pursuing teaching, nursing or the arts. I didn't feel they were my kind of challenge, and nothing disenchants me more than doing what someone else has done! Anyway, I was conscious of my practical nature — I prefer to watch a chemical reaction than consider the equation — so it made sense to proceed into 'industrial'. It meant becoming the first female in the Commonwealth to graduate in this field and because I was the only girl in the class, being accorded the dubious honour of Miss Engineering '67!

To say that I thrive when I'm where the action is would be true of me. Certainly in my position as executive assistant to the president of Barringer, I'm working in a very dynamic atmosphere. We specialize in developing new instruments and techniques, mainly for geophysical companies prospecting for mineral deposits. It has also led us into such fascinating projects as space research for NASA, and air-water pollution detection.

I don't believe I've met my biggest challenge yet. That will come when I get married, raise a family and continue to work. I know I can handle it!"

Margaret Takeuchi



The first in the Commonwealth

Wendy McNaughton / Age 22

Landscape Horticulturist
University of Guelph

Bachelor of Science in Agriculture
University of Guelph

"Most things in life I've done the hard way. That includes carving out a career which I entered through the back door. I'd recommend doing it the easier way through getting the training first.

As a high school girl I wasn't very aware of such basics as job satisfaction and potential. I was bored with school, more interested in earning some money. So I opted for the school's hairdressing course and as soon as possible got out and into a job. The hours were long and my pay disappointing.

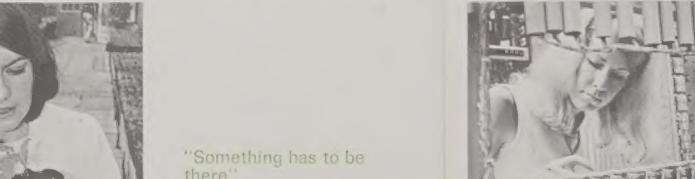
Because I was also inclined toward fine arts, and I hadn't taken all the high school maths and sciences necessary for admission to agriculture, I elected to enter the arts program at university. But horticulture kept gnawing inside of me so, on my own initiative, I went back to high school to pick up my missing credits. I've never regretted that decision or that extra year.

There's as much indoor as outdoor life in this work. Like any other applied science much of the landscape planning is done on paper before you proceed to the actual gardening. If you're doing research your time is divided largely between a desk and a greenhouse. But what a great feeling to get outside with a seedling in your hands, root it into the earth and witness it thrive to maturity.

Should a horticulturist specialize in the commercial nursery business, she must be prepared for long hours of work during the spring and fall. And it's strenuous. Nevertheless, there are really no physical limitations to prevent a girl entering the field.

Having once experienced the frustration of a meaningless job future, I've never lost the drive to better myself. Just now I'm being sponsored by my company on a management development course. Not every girl will be as fortunate or as determined as I was so I'd recommend a good basic training before trying to break into electronics. Just remember, promotions aren't given — they're earned."

Wendy McNaughton



"Something has to be there"

Sharon Ferriss / Age 26

Electronics Draftsman
Northern Electric Research Laboratories
Bramalea, Ontario

Bachelor of Science in Agriculture
University of Guelph

"I think one of the misconceptions many students have about finding the *right* career for themselves is that they expect the answers to come rather like a revelation. For many of us, myself included, it just doesn't happen this way. Often it's trial and error, and in the process you begin to discover what makes you tick.

It was an urge for more practical activity — call it 'doing' if you like rather than lecturing about theory — that diverted me from a teaching career. I'd completed my degree in Biology, had almost finished my teaching degree and was in the middle of my practice teaching when I decided it wasn't for me. It was then that I turned to the atomic research lab and I'm confident now that this type of work is much more my kind of thing.

Perhaps it's the setting here that has so much appeal for me. I'm involved with experiments in the field of genetic research. It's intriguing work, mostly, I suppose, because of the constant challenge of the unknown. More answers may help us understand, for example, why certain diseases are passed on from generation to generation. Scientists then may be able to eliminate the genetic defects. My day to day participation in the research project revolves largely around my microscopes, my cell bottles and my colony of mice.

The force that really pulled me into university was the spectre of some of my friends who ended up as school dropouts with nowhere to go but down. I had liked chemistry at school. There was a mystery to it which sort of captured me, so by the time I got to university I naturally entered the science program. At the time I had no specific goal in mind. But then a really keen professor got me involved in biology and so I ended up as a bio-chemist. No complaints!"

Sharon L. Ferriss



"Everything done the hard way"

Velda Coakley / Age 23

Bio-chemistry Technologist
Atomic Energy of Canada Limited
Chalk River, Ontario

Bachelor of Science (Biology), Bachelor of Education
St. Francis Xavier University

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Velda Coakley



"Careers don't happen like revelations"